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in which $d\,L$ is the precession, D the declination of a star, ω the obliquity.

" Astronomers," Delambre adds, " have made use of these expressions, with the exception of the terms $d\,Æ = -d\,\omega \cos Æ \tan D$, and $d\,D = -d\,\omega \sin Æ$, which have always been neglected. The latter cannot exceed 0″·5 a year, but it would amount to 50″ in a century; the former would amount to 16″·5 a-year in the case of the pole star. These terms, therefore, would seem to deserve all the attention of astronomers, but they have believed that the motion of the ecliptic did not at all affect the declinations, nor even the right ascensions, which would be diminished only by the annual motion 0″·202 of the equinoctial points."

In deducing the above expressions, Delambre supposes the latitude constant, that is, that the plane of the ecliptic is fixed, and that of the equator alone movable; therefore the variation $d\,\omega$ of the obliquity must be produced by a small motion of rotation of the equator round the equinoctial points. Thus, it appears that the variation ($d\,\omega$) here employed is not that of the true ecliptic upon the fixed ecliptic, and, consequently, cannot be, as Delambre supposes, 0″·5.

M. do Conto deduces the same differential expressions from the spherical triangle, formed by the star and the poles of the ecliptic and equator. In this he supposes the latitude constant, and the equator movable, so that the point of intersection with the ecliptic, and the inclination, vary simultaneously.

It appears, from the theory of the luni-solar precession, that the *inclination* of the movable equator upon the fixed ecliptic would be constant; but that its displacement by the planetary action would produce, besides the annual diminution of the obliquity, a small increase in the above-mentioned constant inclination. It is this small increase which ought to be taken as the value of $d\,\omega$, and is .00000984 t^2 nearly. In the thirty years which follow 1750, this would amount to 0″·00886, which, multiplied by the tangent of the declination 89° 42′·7, or 200, would give 1″·77; but the declinations of all the stars of which any use is made being much less than this, the error of neglecting this quantity will, in general, be very small.

VI. Notice of a forthcoming Work on the Measures of Double Stars. By Professor Struve.

Professor Struve hoped, in June last, to complete his extended catalogue of double stars, containing all the observations made since those already published in his well-known *Catalogus Stellarum Duplicium*, Dorpat, 1827 (or from 1824 to 1836). This last-mentioned catalogue contained 3112 stars; from which the professor has, for various reasons assigned, excluded 490, and has added 64 remarkable new ones of greater distance than 32″, and 21 of less distance. The number of stars, therefore, is 2707. The measures were made with a wire-micrometer applied to the large refractor, with a power varying from 320 to 1000, and mostly

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in an illuminated field. Calling each night's observations of one star a measure, the number of measures is about 11,000, or, on an average, four to each star.

Professor Struve has divided these stars into eight classes (Sir W. Herschel used four), as follows :—

W. Herschel.					Struve.				
I.	0″	to	4″	of distance.	I.	0″	to	1″	of distance.
					II.	1	—	2	——
					III.	2	—	4	——
II.	4	—	8	——	IV.	4	—	8	——
					V.	8	—	12	——
III.	8	—	16	——	VI.	12	—	16	——
					VII.	16	—	24	——
IV.	16	—	32	——	VIII.	24	—	32	——

Each class is further divided into two divisions, *lucidæ* and *reliquæ;* the former containing those in which the companion is not of less than the eighth magnitude. The principle of this division is, Professor Struve states, that the catalogue is very nearly complete with respect to the *lucidæ,* on which, therefore, certain theoretical conjectures may be formed, relative to the numbers of double stars in different orders of magnitude. The introduction, besides all the matters explanatory of the present and emendatory of the former, catalogue, which might certainly have been looked for from Professor Struve, will contain conclusions concerning the nature of double stars, from their distribution among the orders of magnitude, their brightness, proper and relative motions, &c. Professor Struve has added a specimen of the catalogue, and several interesting conclusions, of which our limits will only enable us here to notice the very rapid motion of 42 *Comæ Berenices* (130° in six years) the reduction of the period of λ *Ophiuchi* to less than 40 years, and the close approach to their nearest distance of γ *Coronæ* and ω *Leonis.* The latter system, between Sir W. Herschel and Professor Struve, has now been watched from the greatest to the least apparent distance.

VII. Stars observed with the Moon at the Royal Observatories of Greenwich and Edinburgh, and the Observatory of Cambridge, in the months of June—October, 1836.

Day.	Object.	Apparent R.A. from Observation, Greenwich.	Apparent R.A. from Observation, Cambridge.	True Sidereal Time, Edinburgh.
		h m s	h m s	h m s
June 20	Moon 1 L. ...	...	...	10 57 5,78
23	α Virginis	...	...	13 16 34,81
	Moon 1 L. ...	...	...	13 22 40,63
24	Moon 1 L. ...	...	14 14 56,44	...
	ι^1 Libræ	...	15 2 55,04	...
25	α^2 Libræ	...	14 41 50,75	14 41 50,41
	ι^1 Libræ	...	15 2 55,08	15 2 54,87
	Moon 1 L. ...	...	15 12 8,38	15 12 40,97

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